

US-PAT-NO: 4864618

DOCUMENT-IDENTIFIER: US 4864618 A

TITLE: Automated transaction system with modular printhead having print authentication feature

DATE-ISSUED: September 5, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE
Wright; Christopher B.	San Francisco	CA	N/A
Bristow; Stephen	Los Altos Hills	CA	N/A

US-CL-CURRENT: 380/51, 340/5.8, 705/60, 705/62

ABSTRACT: An automated transaction system employs a terminal for printing a value indicia, such as a postmark, on an article. The terminal contains a modular printer unit which has a printhead and a dedicated microprocessor physically permanently bonded together such that the printhead microprocessor cannot be physically tampered with without disabling the printhead. The modular printer unit includes a first supply of visible ink and a second supply of invisible ink, and an internal program for printing the value indicia with visible ink and an authentication code, which uniquely corresponds to the value indicia, with invisible ink. The invisible value indicia can be subsequently verified as authentic by machine reading of said invisible authentication code and comparing the authentication code for correspondence to the value indicia.

18 Claims, 14 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 11

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Brief Summary Text - BSTX (16): Under the principles of the invention, the above-described interactive card automated transaction system is applied to postage metering machines. In one embodiment, a postage metering terminal has a slot for receiving a microprocessor card issued with an authorized balance, a print head with a secure microprocessor which interacts with the card microprocessor, a keypad, a display, and an operations microprocessor which accepts a keyed input of the postage amount requested, displays the keyed input, queries the card to authorize and initiate the postage printing transaction, and then resets the machine for the next transaction or executes a series of transactions in a repeat mode.

US-PAT-NO: 5684949

DOCUMENT-IDENTIFIER: US 5684949 A

TITLE: Method and system for securing operation of a printing module

DATE-ISSUED: November 4, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Naclerio; Edward J.	Madison	CT	N/A	N/A

US-CL-CURRENT: 713/200, 380/51

**ABSTRACT:** A method for securing a postage transaction in a postage meter having an accounting module and a printing module includes A) storing a plurality of data patterns in the accounting module; B) storing the plurality of data patterns in the printing module; C) utilizing one of the accounting module and the printing module to request that a specific one of the plurality of data patterns be sent from the other of the accounting module and the printing module to the one of the accounting module and the printing module; D) sending a return data pattern from the other of the accounting module and the printing module to the one of the accounting module and the printing module in response to the request of step C); E) determining if the return data pattern and the specific one of the plurality of data patterns are the same; and F) initiating printing by the printing module only when in step E) it is determined that the return data pattern and the specific one of the plurality of data patterns are the same. A systems incorporates the method set forth above.

8 Claims, 2 Drawing figures

Exemplary Claim Number: 8

Number of Drawing Sheets: 1

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**Brief Summary Text - BSTX (5):** Prior art devices have attempted to overcome the above problems by requiring that in authentication procedure between the printhead and the accounting module must occur before printing of the indicia is possible. Typically, the authentication procedure requires an exchange of encrypted data between the printhead and meter vault. Both the printhead and the meter vault have encryption keys stored therein as well as an encryption algorithm, such as the Data Encryption Standard (DES) or RSA (Rivest, Shamir, and Adelman) to permit the encrypted communication. If the authentication process does not occur, printing is not enabled.

**Claims Text - CLTX (6):** E) utilizing one of the accounting module and the printing module to request that a specific one of the plurality of authorization data patterns be sent from the other of the accounting module and the printing module to the one of the accounting module and the printing module;

**Claims Text - CLTX (10):** 2. A method as recited in claim 1, further comprising randomizing for subsequent postage transaction which of the plurality of authentication of data patterns is requested by the one of the accounting module and the printing module to be returned to it by the other of the accounting module and the printing module.

PUB-NO: EP000825562A2

DOCUMENT-IDENTIFIER: EP 825562 A2

TITLE: Method and apparatus for remotely changing security features of a postage meter

PUBN-DATE: February 25, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
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GARGIULO, JOSEPH L	US
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MURPHY, CHARLES F III	US
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INT-CL (IPC): G07B017/00

EUR-CL (EPC): G07B017/00 ; G07B017/00

ABSTRACT:

CHG DATE=19990617 STATUS=O> A value printing system (1) having a printing mechanism (33); a device (31, 32) for moving the printing mechanism in a first predetermined manner during printing to record an indication of value on a recording medium; and apparatus (8), remote from the printing mechanism and the moving device, for effecting the moving device (31, 32) to change the movement of the printing mechanism (33) from the first predetermined manner to a second different predetermined manner during printing by the printing mechanism. In another embodiment, the value printing system includes a printing module (5) which prints an indication of value on a recording medium and apparatus (7) for accounting for the indication of value printed. The accounting apparatus and printing module communicate with each other to effectuate printing by the printing module. An authorizing device (9) is provided for authorizing the authenticity of the communication between the accounting apparatus (7) and the printing module (5) as a prerequisite to printing the indication of value on the recording medium, the authorizing device including the use of at least one secret key stored in the value printing system. Structure is provided, remote from the printing module (5), the accounting apparatus (7) and the authorizing device (9), for initiating changing of the at least one secret key. A method may include the steps of sending a code from a computer, remotely located from the printing mechanism, the accounting apparatus and the authorizing apparatus, to the value printing system (7) and utilizing the code to change the stored secret key. <IMAGE>

US-PAT-NO: 5745887

DOCUMENT-IDENTIFIER: US 5745887 A

TITLE: Method and apparatus for remotely changing security features of a postage meter

DATE-ISSUED: April 28, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gargiulo; Joseph L.	Trumbull	CT	N/A	N/A
Murphy, III; Charles F.	Milford	CT	N/A	N/A

US-CL-CURRENT: 705/410, 235/375 , 235/382.5 , 340/5.22 , 340/5.8 , 705/401 , 705/408

ABSTRACT: A value printing system having a printing mechanism; a device for moving the printing mechanism in a first predetermined manner during printing by the printing mechanism to record an indication of value on a recording medium; and apparatus, remote from the printing mechanism and the moving device, for effecting the moving device to change the movement of the printing mechanism from the first predetermined manner to a second predetermined manner different from the first predetermined manner during printing by the printing mechanism to record the indication of value on the recording medium. A second value printing system includes a printing module which prints an indication of value on a recording medium; apparatus for accounting for the indication of value printed, the accounting apparatus and printing module communicating with each other to effectuate printing by the printing module; an authorizing device for authorizing the authenticity of the communication between the accounting apparatus and the printing module as a prerequisite to printing the indication of value on the recording medium, the authorizing device including the use of at least one secret key stored in the value printing system; and structure, remote from the printing module and the accounting apparatus and the authorizing device, for initiating changing of the at least one secret key. A method includes the steps of sending a code from a computer, remotely located from the printing mechanism, the accounting apparatus and the authorizing apparatus, to the value printing system; and utilizing the code to change the stored secret key.

10 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

----- KWIC -----

Abstract Text - ABTX (1): A value printing system having a printing mechanism; a device for moving the printing mechanism in a first predetermined manner during printing by the printing mechanism to record an indication of value on a recording medium; and apparatus, remote from the printing mechanism and the moving device, for effecting the moving device to change the movement of the printing mechanism from the first predetermined manner to a second predetermined manner different from the first predetermined manner during printing by the printing mechanism to record the indication of value on the recording medium. A second value printing system includes a

printing module which prints an indication of value on a recording medium; apparatus for accounting for the indication of value printed, the accounting apparatus and printing module communicating with each other to effectuate printing by the printing module; an authorizing device for authorizing the authenticity of the communication between the accounting apparatus and the printing module as a prerequisite to printing the indication of value on the recording medium, the authorizing device including the use of at least one secret key stored in the value printing system; and structure, remote from the printing module and the accounting apparatus and the authorizing device, for initiating changing of the at least one secret key. A method includes the steps of sending a code from a computer, remotely located from the printing mechanism, the accounting apparatus and the authorizing apparatus, to the value printing system; and utilizing the code to change the stored secret key.

Brief Summary Text - BSTX (8): Yet another object of the invention is to provide a value printing system which can remotely change stored keys used in authenticating the value printing system. This object is met by a value printing system including a printing module which prints an indication of value on a recording medium; apparatus for accounting for the indication of value printed, the accounting apparatus and printing module communicating with each other to effectuate printing by the printing module; an authorizing device for authorizing the authenticity of the communication between the accounting apparatus and the printing module as a prerequisite to printing the indication of value on the recording medium, the authorizing device including the use of at least one secret key stored in the value printing system; and structure, remote from the printing module and the accounting apparatus and the authorizing device, for initiating changing of the at least one secret key.

Detailed Description Text - DETX (11): In order to overcome the security problem discussed above, a secure electronic link is provided between vault microprocessor 7 and print module microprocessor 41. The secure electronic link is accomplished through an encryption process which provides for a mutual authentication between the printhead module 5 and the vault microprocessor 7 prior to authorizing printing of the indicia image, debiting of postage, and updates to certain vault data such as PIN location and account numbers. The inventive encryption process significantly decreases the possibility of data interception and reproduction. Moreover, in the preferred embodiment base microprocessor 9 acts as a non-secure communication channel between the vault microprocessor 7 and print module microprocessor 41. However, the secure link discussed above and described in more detail below can be applied between any subsystems of postage meter 1.

Claims Text - CLTX (12): means for authorizing the authenticity of the communication between the accounting means and the printing module as a prerequisite to printing the indication of value on the recording medium, the authorizing means including the use of at least one secret key stored in the value printing system; and

Claims Text - CLTX (13): means, remote from the printing module and the accounting means and the authorizing means, for initiating changing of the at least one secret key;

US-PAT-NO: 5822738

DOCUMENT-IDENTIFIER: US 5822738 A

TITLE: Method and apparatus for a modular postage accounting system

DATE-ISSUED: October 13, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shah; Chandrakant J.	Stockton	CA	N/A	N/A
Robertson; Keith B.	Castro Valley	CA	N/A	N/A

US-CL-CURRENT: 705/410

ABSTRACT: Apparatus and method for a modular postage accounting system. An open system metering device of the present invention includes a general purpose computer, a digital printer and a secure metering device (SMD). The SMD performs the accounting functions of a postage meter and generates encrypted postage indicia data for transmission by the computer to the digital printer and subsequent printing on a mailpiece by the digital printer. Postage credit data can be entered into the SMD using a computerized meter resetting system just as it is in a conventional postage meter.

16 Claims, 12 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 10

----- KWIC -----

Abstract Text - ABTX (1): Apparatus and method for a modular postage accounting system. An open system metering device of the present invention includes a general purpose computer, a digital printer and a secure metering device (SMD). The SMD performs the accounting functions of a postage meter and generates encrypted postage indicia data for transmission by the computer to the digital printer and subsequent printing on a mailpiece by the digital printer. Postage credit data can be entered into the SMD using a computerized meter resetting system just as it is in a conventional postage meter.

Brief Summary Text - BSTX (12): In one embodiment of the present invention, an open system metering device of the present invention consists of a general purpose computer, a digital printer and a secure metering device (SMD). The SMD performs the accounting functions of a postage meter and generates encrypted postage indicia data for transmission by the computer to the digital printer and subsequent printing on a mailpiece. Postage credit data can be entered into the SMD using a CMRS just as it is in a conventional postage meter. This configuration requires the user to maintain a special item of hardware (the SMD) in order to print postage purchased via the CMRS.

DERWENT-ACC-NO: 2001-624091

DERWENT-WEEK: 200172

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TITLE: General purpose processor based system for printing postage indicia on mail, has pair of printer units operating contemporaneously with document creator

INVENTOR: KARA, S G

PRIORITY-DATA: 1997US-0965015 (November 5, 1997) , 1995US-0540658 (October 11, 1995) , 1995US-0561417 (November 21, 1995)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6208980 B1	March 27, 2001	N/A	035	G07B 017/00
INT-CL (IPC):	G07B017/00			

ABSTRACTED-PUB-NO: US 6208980B

BASIC-ABSTRACT:

NOVELTY - A printer unit including general purpose printer, prints postage indicia within transfer section established on one document that is created by document creator in response to input data from user. Another printer unit prints another postage indicia corresponding to another document associated with previous document. The printer units operate contemporaneously with the document creator.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Processor based system for generating outbound document and associated return document;

(b) Processor based system operating method

USE - For printing postage indicia by personalizing postage indicia.

ADVANTAGE - Enables printer to create a document and an associated return document, as well as postage to mail both documents during one pass across blank writing medium. Enables user to select postage indicia from available graphic configuration menu. Enables sorting, routing and delivery of mail easily and calculating postage due. Also enables user to retrieve, select, personalize and print postage indicia.

DESCRIPTION OF DRAWING(S) - The figure shows the return document with sending and return postage indicia on both face of documents.

## DIALOG 23 DECEMBER 2004

File 2:INSPEC 1969-2004/Dec W2 (c) 2004 Institution of Electrical Engineers  
File 9:Business & Industry(R) Jul/1994-2004/Dec 21 (c) 2004 The Gale Group  
File 15:ABI/Inform(R) 1971-2004/Dec 23 (c) 2004 ProQuest Info&Learning  
File 16:Gale Group PROMT(R) 1990-2004/Dec 22 (c) 2004 The Gale Group  
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File 99:Wilson Appl. Sci & Tech Abs 1983-2004/Nov (c) 2004 The HW Wilson Co.  
File 148:Gale Group Trade & Industry DB 1976-2004/Dec 22 (c)2004 The Gale Group  
File 160:Gale Group PROMT(R) 1972-1989 (c) 1999 The Gale Group  
File 233:Internet & Personal Comp. Abs. 1981-2003/Sep (c) 2003 EBSCO Pub.  
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File 349:PCT FULLTEXT 1979-2002/UB=20041216,UT=20041209 (c) 2004 WIPO/Univentio  
File 474:New York Times Abs 1969-2004/Dec 23 (c) 2004 The New York Times  
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File 610:Business Wire 1999-2004/Dec 22 (c) 2004 Business Wire.  
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File 634:San Jose Mercury Jun 1985-2004/Dec 21 (c) 2004 San Jose Mercury News  
File 636:Gale Group Newsletter DB(TM) 1987-2004/Dec 22 (c) 2004 The Gale Group  
File 810:Business Wire 1986-1999/Feb 28 (c) 1999 Business Wire  
File 813:PR Newswire 1987-1999/Apr 30 (c) 1999 PR Newswire Association Inc



Set	Items	Description
S1	101337	ACCOUNT??? (3N) (CARD OR MODULE OR CHIP OR ASIC OR SMART OR VAULT OR MEMORY OR REGISTER OR RECORD)
S2	1324	(S1 OR PSD OR SMD OR PED OR PSM) (5N) (AUTHENTICAT???? OR VERIFY???????? OR AUTHORIZ?????)
S3	15	S2 (5N) PRINT???
S4	22910	(FRANK??? OR POSTAGE) (3N) (INDICIA OR INDICIUM OR MARK OR MARKING OR IMPRESSION OR STAMP)
S5	2	S3 (S) S4
S6	194175	PRINT??? (3N) (HEAD?? OR UNIT?? OR DEVICE??)
S7	786	(SECURE OR ENCLOSED OR ENCASED OR POTTED OR CLOSED) (5N) S6
S8	1	S2 (S) S7
S9	1515	(UNSECURE OR OPEN OR GENERAL) (5N) S6
S10	4	S4 (S) S9
S11	0	S5 AND S8 AND S10
S12	20	S3 OR S5 OR S8 OR S10
S13	18	RD S12 (unique items) [Scanned ti,pd,kwic all]

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00909024 \*\*Image available\*\*

POSTAGE METERING SYSTEM INCLUDING A PRINTER HAVING DUAL PRINT HEADS

SYSTEME D'AFFRANCHISSEMENT COMPRENANT UNE IMPRIMANTE A DOUBLE TETE D'IMPRESSION

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Patent and Priority Information (Country, Number, Date):

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Application: WO 2001US46019 20011115 (PCT/WO US0146019)

Priority Application: US 2000722177 20001127

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-017/60

Publication Language: English

Filing Language: English

Fulltext Word Count: 5480

#### English Abstract

A postage metering system includes a computer (120), an authentication unit (130), a printer (140) and a control system (142). The control system (142) is in operative communication with the computer (120), the authentication unit (130) and the printer (140). The authentication unit (130) and the printer (140) are both in operative communication with the computer (120). The printer (140) includes an unsecure print head (148) and a secure print head (150). The control system (142): (i) executes a transaction session between the computer (120) and the authentication unit (130) to generate postal data to be included in a postal indicium where the postal indicium includes non-authorization data; (ii) initiates a print request to print the postal indicium; and (iii) controls the unsecure print head (148) to print the non-authorization data and the secure print head (150) to print forensic evidence of the authenticity of the postal indicium.